

10. SEATTLE–BREMERTON

Service between Seattle and Bremerton includes two routes, a conventional auto-ferry route and a passenger-only ferry route. This chapter summarizes the results for the auto-ferry route. The Seattle-Bremerton ferry service is somewhat unique among the WSF routes in that both the Seattle CBD and Bremerton are significant employment centers. As a result, the commute patterns are very bi-directional during the AM and PM peak periods, and ridership falls off less during the midday shoulder periods than on other commuter-oriented routes.

At 13.5 nautical miles, the Seattle-Bremerton route is the longest of the central cross-sound routes with a crossing time of about 60 minutes for the auto ferry. Daily counts of vehicles/drivers average about 2,005 and daily passengers average about 4,490, for a total daily average ridership of 6,495. In May 1999, the average daily ridership was 6,475.

Key trip making information and geographic travel patterns for patrons of this route are presented herein. Additional route-specific survey tabulations and results for all three survey periods, including ferry user demographic information, can be found in Appendix B.

10.1 TRIP MAKING INFORMATION

10.1.1 Weekday Trip Statistics

Weekday trip statistics presented here are grouped into three topics:

- Trip purpose and usage frequency;
- Travel modes and round-trip patterns; and
- Desired transit improvements.

The focus of these results is primarily on the PM peak survey period, contrasting the peak results to the PM non-peak period for key items such as trip purpose and wait times.

Trip Purpose

The trip purpose and frequency for the weekday PM peak period and non-peak period for the Seattle-Bremerton route are summarized in Table 10-1 and Table 10-2, respectively. As in 1993, the majority of ferry users during both weekday survey periods are utilizing the ferry for work/school/business related purposes. In terms of frequency of use, the two weekday survey periods differ in that while frequent users (10 or more rides in last 7 days) are the dominant group during the PM peak period (at 42.9%), the non-peak period is more spread out, with a higher percentage of less frequent users. The largest group during the non-peak period is users with 2 to 5 rides in the past 7 days (30.9%).

Table 10-1
Trip Purpose and Frequency of Use Distribution
Seattle-Bremerton – Weekday PM Peak Period

<i>Frequency of Use / Trip Purpose</i>	<i>Work/School/ Business Related</i>	<i>Medical Appt./ Personal Business/ Other</i>	<i>Social/ Recreational/ Shopping/ Sight-seeing</i>	<i>All Trip Purposes</i>	<i>Expanded Ridership Total</i>
1st Ride in Past 7 Days*	4.0%	27.0%	54.5%	14.0%	264
2 to 5 Rides in Past 7 Days	12.0%	51.1%	28.3%	17.4%	326
6 to 9 Rides in Past 7 Days	19.5%	4.7%	4.4%	16.0%	300
10 or More Rides in Past 7 Days	55.0%	8.1%	1.3%	42.9%	805
No Answer	9.4%	9.0%	11.5%	9.8%	183
Totals	100.0%	100.0%	100.0%	100.0%	1,879
Overall Trip Purpose Distribution	76.5%	6.7%	16.8%	100.0%	
Expanded Ridership	1,437	126	316	1,879	

* 1st Ride in Past 7 Days includes passengers who answered: 1st ride in past year and 1st ride ever.

Table 10-2
Trip Purpose and Frequency of Use Distribution
Seattle-Bremerton – Weekday PM Non-Peak Period

<i>Frequency of Use / Trip Purpose</i>	<i>Work/School/ Business Related</i>	<i>Medical Appt./ Personal Business/ Other</i>	<i>Social/ Recreational/ Shopping/ Sight-seeing</i>	<i>All Trip Purposes</i>	<i>Expanded Ridership Total</i>
1st Ride in Past 7 Days*	11.5%	10.1%	42.9%	19.1%	226
2 to 5 Rides in Past 7 Days	22.8%	45.5%	41.9%	30.9%	366
6 to 9 Rides in Past 7 Days	26.5%	6.9%	11.3%	19.8%	235
10 or More Rides in Past 7 Days	24.6%	3.5%	0.0%	15.3%	181
No Answer	14.6%	34.0%	4.0%	14.9%	176
Totals	100.0%	100.0%	100.0%	100.0%	1,184
Overall Trip Purpose Distribution	60.2%	14.9%	24.9%	100.0%	
Expanded Ridership	713	176	295	1,184	

* 1st Ride in Past 7 Days includes passengers who answered: 1st ride in past year and 1st ride ever.

Table 10-3 summarizes trip origin and destination types by direction in the weekday PM peak period for the Seattle-Bremerton route. Though long recognized as a route with bi-directional commute patterns due to employment opportunities at both ends (notably the naval shipyards in Bremerton,) the share of westbound trips in the PM peak has grown from 62% in 1993 to 74% in 1999. The dominant group of origin types for both the westbound and eastbound directions was work/school, with approximately 45% in the

eastbound direction, 82% in the westbound direction, and 72% for both directions. In the westbound direction, the vast majority of trip destinations was home (89%), while in the eastbound direction, the destination types are more varied, with only 52% destined for home. Considering both directions, 74% of trips were destined for home.

"Though long recognized as a route with bi-directional commute patterns..., the share of westbound trips in the PM peak has grown from 62% in 1993 to 74% in 1999."

Table 10-3
Trip Origin and Destination Types by Direction
Seattle-Bremerton – Weekday PM Peak Period

Origin & Destination Types		Destination Shares Across All Origins:			Expanded Ridership Total
Origin Place	Destination Place	Eastbound Trips	Westbound Trips	Both Directions	
Home	Home	0.4%	1.5%	1.2%	23
	Work/School	4.5%	0.3%	1.4%	26
	Other	11.0%	2.1%	4.4%	83
Work/School	Home	34.9%	77.5%	66.6%	1,251
	Work/School	0.0%	0.7%	0.5%	9
	Other	10.3%	3.4%	5.2%	98
Other	Home	16.9%	9.8%	11.6%	218
	Work/School	1.7%	0.0%	0.4%	8
	Other	20.3%	4.7%	8.7%	163
Totals		100.0%	100.0%	100.0%	1,879
Travel Direction Distribution		25.6%	74.4%	100.0%	
Expanded Ridership		481	1,398	1,879	

Travel Modes and Round-Trip Patterns

Table 10-4 summarizes responses to questions regarding round-trip patterns and methods for the weekday PM peak period. Approximately 84% of survey period ridership was on the second half of a round-trip. Of that group, approximately 78% were using the same ferry route as in the first part of their round-trip. Of those who were on the first part of a round-trip, approximately 66% said that they would use the same ferry route on their return trip.

Table 10-4
Round-Trip Patterns and Methods
Seattle-Bremerton – Weekday PM Peak Period

<i>Round-Trip Segment & Method / Time</i>	<i>Today</i>	<i>Some Other Day</i>	<i>No Answer</i>	<i>Expanded Ridership</i>
Declared Initial Trip (Reported on 2nd Half of Round-Trip)				84.0%
Same Ferry Route	67.8%	2.0%	8.2%	1231
Not Using Ferry System	7.5%	2.1%	1.1%	171
Different Ferry Route	6.6%	0.7%	0.5%	123
No Answer	2.6%	0.0%	0.8%	53
<i>Total Declared Initial Trip</i>	<i>84.6%</i>	<i>4.9%</i>	<i>10.6%</i>	<i>1578</i>
Expected Return Trip (Reported on 1st Half of Round-Trip)				12.5%
Same Ferry Route	36.2%	17.9%	12.1%	156
Not Using Ferry System	8.4%	5.4%	0.0%	33
Different Ferry Route	8.4%	6.3%	0.8%	37
No Answer	2.7%	0.0%	1.7%	10
<i>Total Expected Return Trip</i>	<i>55.7%</i>	<i>29.6%</i>	<i>14.6%</i>	<i>236</i>
No Answer (Did Not Report Round-Trip Status)				3.5%
<i>No Answer</i>			<i>100.0%</i>	<i>65</i>
Expanded Ridership Total	1,466	147	266	1,879

Access, boarding, and egress mode for the weekday PM peak period are summarized in Table 10-5. Access and egress mode shares and boarding mode distributions from the 1993 survey were modified to approximate 1999 Travel Survey methods and data collection procedures for comparison purposes. However, the 1993 results are not directly comparable to the expanded survey results based upon the data collected in 1999. Please see Section 3.5.2 in Chapter 3 for a detailed explanation of these procedures. These modified percentages can nonetheless be used for generalized comparisons, as presented in the following discussion.

A significant percentage of the survey period ridership accessed the ferry terminal as pedestrians or on bicycle (approximately 49%), while, in contrast, only 15% egressed from the terminal as pedestrians or on bicycle. This reflects the dominance of westbound trips in the PM peak period. Boarding method is roughly even, with approximately 54% pedestrian/bicycle and 46% vehicle drivers and passengers.

As previously noted, the 1993 and 1999 data for access and egress mode can only be generally compared as access and egress information was collected for all boarding modes in 1993, while in 1999 it was collected just for those who boarded as walk-on passengers. Kitsap Transit has had significant increases in transit service since 1993 and a higher utilization of bus services was observed for the 1999 data, which may be attributed to the increase in transit services. Specifically, in 1993, approximately 8% of the PM peak period passengers accessed the ferry terminal using the bus, however in 1999 approximately 32% of the passengers utilized the bus. A similar pattern was observed with a shift in the egress

mode. In 1993 approximately 12% of the passengers used a bus or shuttle to depart from the ferry terminal and in 1999 approximately 41% of the passengers utilized a bus or shuttle. Surprisingly, a higher percentage of passengers accessed (74%) and egressed (39%) the ferry terminal as a pedestrian or bicyclist in 1993 than in 1999, when 49% accessed and 15% egressed the terminal as a pedestrian or bicyclist.

Comparisons between 1993 and 1999 data on boarding method should be relatively accurate. However, it is important to note that in 1993 respondents reported their boarding method and the 1999 data is based on observed boardings. The trend for boarding methods between the 1999 and 1993 data is similar in the sense that more walk-on boardings were observed in comparison to in-vehicle boardings in the PM peak period. Walk-on boardings included pedestrians and bicyclists; and vehicle-boardings included drivers as well as passengers.

Table 10-5
Access Mode to Ferry – Boarding Method – Egress Mode from Ferry
Seattle-Bremerton – Weekday PM Peak Period

<i>Access Mode to Ferry Terminal</i>	<i>Percent Distrib.</i>	<i>Boarding Method</i>	<i>Percent Distrib.</i>	<i>Mode Shares</i>	<i>Egress Mode from Ferry Terminal</i>	<i>Percent Distrib.</i>
Pedestrian/Bicycle	48.6%	Walked-On		53.8%	Pedestrian/Bicycle	14.8%
By Vehicle*	19.3%	Pedestrian	97.0%		By Vehicle*	44.7%
By Bus or Shuttle	<u>32.0%</u>	Pedestrian w/ Bicycle	<u>3.0%</u>		By Bus or Shuttle	<u>40.5%</u>
Total	100.0%	Total	100.0%		Total	100.0%
In-Vehicle	100.0%	In-Vehicle		46.2%	In-Vehicle	100.0%
		Vehicle Drivers*	65.6%			
		Vehicle Passengers	<u>34.4%</u>			
		Total	100.0%			
Total				100.0%		
Expanded Ridership Total				1,879		
* includes motorcycles						

Table 10-6 and Table 10-7 summarize the distribution of waiting times for weekday PM peak period and non-peak period, respectively. PM peak period and non-peak period show similar trends, with those boarding as pedestrians typically waiting a shorter period of time than those boarding in a vehicle.

Table 10-6
Wait Time Distribution by Boarding Method
Seattle-Bremerton – Weekday PM Peak Period

<i>Wait Time Category / Boarding Method</i>	<i>Walk Board (Pedestrian & Bicycle)</i>	<i>Vehicle Board (Driver & Passenger)</i>	<i>Expanded Ridership Total</i>
Zero to 10 Minutes	43.5%	13.6%	558
11 to 30 Minutes	41.7%	34.6%	721
31 to 60 Minutes	6.5%	36.8%	385
61 to 90 Minutes	0.2%	8.6%	77
More Than 90 Minutes	0.0%	0.7%	6
No Answer	8.1%	5.8%	132
Totals	100.0%	100.0%	
Expanded Ridership	1010	869	1879

Table 10-7
Wait Time Distribution by Boarding Method
Seattle-Bremerton – Weekday PM Non-Peak Period

<i>Wait Time Category / Boarding Method</i>	<i>Walk Board (Pedestrian & Bicycle)</i>	<i>Vehicle Board (Driver & Passenger)</i>	<i>Expanded Ridership Total</i>
Zero to 10 Minutes	41.5%	18.1%	316
11 to 30 Minutes	27.7%	37.9%	405
31 to 60 Minutes	12.8%	22.8%	227
61 to 90 Minutes	6.4%	9.7%	100
More Than 90 Minutes	1.1%	2.2%	21
No Answer	10.6%	9.2%	115
Totals	100.0%	100.0%	
Expanded Ridership	433	751	1184

Parking statistics for walk-on boardings in the weekday PM peak period are shown in Table 10-8. The survey results indicate that over 15% of those who walked on parked on both sides, suggesting that they had two cars, one on each side. The greatest percentage of walk-on riders (53%) did not park on either side.

Table 10-8
Walk-Board Passenger Parking Statistics
Seattle-Bremerton – Weekday PM Peak Period

<i>Reported Parking Characteristics</i>	<i>Expanded Ridership</i>	<i>Percent of Total</i>	<i>Average Total Parking Paid*</i>
Used Paid Parking on Both Sides	78	7.7%	\$6.48
Used Paid Parking One Side & Free Parking Other Side	26	2.6%	\$3.72
Used Free Parking on Both Sides	54	5.3%	\$0.00
Paid Parking One Side & Did Not Park Other Side or Insufficient Information	210	20.8%	\$3.06
Free Parking One Side & Did Not Park Other Side or Insufficient Information	112	11.1%	\$0.00
Did Not Park on Either Side or Insufficient Parking Information	531	52.6%	NA
Totals	1,010	100.0%	

*Only surveys with a reported dollar amount paid for parking were included in the average cost calculation (those with free parking were excluded).

Desired Transit Improvements

Table 10-9 and Table 10-10 list those transit improvements desired by riders during the weekday PM peak and non-peak periods, respectively. Both tables show that the most common response is for service within two blocks of the trip origin or destination. The next most popular responses were for service at both ends of the ferry route and a seamless connection between the ferry and bus.

Table 10-9
Transit Improvements Desired
Seattle-Bremerton – Weekday PM Peak Period

<i>Transit Improvement</i>	<i>Distribution</i>	<i>Expanded Ridership</i>
Service within 2 Blocks of Origin or Destination	24.3%	456
Service at Both Ends of Ferry Route	11.9%	224
Seamless Connection between Ferry & Bus	15.2%	286
Employer Paid or Subsidized Bus Pass	9.6%	181
More Park & Ride Lots/Spaces Available	8.2%	155
None of the Above/No Answer	23.4%	440
<i>Frequent Write-In Comments</i>		
More Passenger Only Service	3.0%	56
Lower Park & Ride Parking Fees/Free	2.1%	40
More Park & Ride Information	1.6%	31
"Other" Comments	0.5%	9
Totals	100.0%	1,879

Table 10-10
Transit Improvements Desired
Seattle-Bremerton – Weekday PM Non-Peak Period

<i>Transit Improvement</i>	<i>Distribution</i>	<i>Expanded Ridership</i>
Service within 2 Blocks of Origin or Destination	24.3%	287
Service at Both Ends of Ferry Route	18.7%	221
Seamless Connection between Ferry & Bus	8.5%	101
Employer Paid or Subsidized Bus Pass	3.5%	42
More Park & Ride Lots/Spaces Available	6.3%	75
None of the Above/No Answer	27.9%	331
<i>Frequent Write-In Comments</i>		
More Passenger Only Service	1.6%	19
Lower Park & Ride Parking Fees/Free	2.7%	32
More Park & Ride Information	4.9%	58
"Other" Comments	1.5%	18
Totals	100.0%	1,184

10.1.2 Sunday Trip Statistics

Sunday trip statistics presented here are grouped into two categories:

- Trip purpose and usage frequency; and
- Travel modes and round-trip patterns.

Trip Purpose

Table 10-11 shows the distribution of trip purpose and frequency of use for the Sunday survey period on the Seattle-Bremerton route. In contrast with the weekday PM peak and non-peak periods, the highest percentage of respondents in the Sunday survey period had a trip purpose of social/recreational/shopping/sightseeing (67%). This contrast between weekday and Sunday is consistent with results from the 1993 survey. In terms of frequency of use, the highest group is those with 2 to 5 rides in the past 7 days (40%), similar to the weekday non-peak period.

Table 10-11
Trip Purpose and Frequency of Use Distribution
Seattle-Bremerton – Sunday Survey Period

<i>Frequency of Use / Trip Purpose</i>	<i>Work/School/ Business Related</i>	<i>Medical Appt./ Personal Business/ Other</i>	<i>Social/ Recreational/ Shopping/ Sight-seeing</i>	<i>All Trip Purposes</i>	<i>Usable Responses</i>
1st Ride in Past 7 Days*	7.1%	30.2%	48.8%	40.1%	99
2 to 5 Rides in Past 7 Days	28.6%	39.6%	42.8%	40.5%	100
6 to 9 Rides in Past 7 Days	7.1%	11.3%	1.2%	4.0%	10
10 or More Rides in Past 7 Days	39.3%	9.4%	2.4%	8.1%	20
No Answer	17.9%	9.4%	4.8%	7.3%	18
Totals	100.0%	100.0%	100.0%	100.0%	247
Overall Trip Purpose Distribution	11.3%	21.5%	67.2%	100.0%	
Usable Responses	28	53	166	247	

* 1st Ride in Past 7 Days includes passengers who answered: 1st ride in past year and 1st ride ever.

Travel Modes and Round-Trip Patterns

Table 10-12 shows round-trip patterns and methods for the Sunday survey period. In contrast with the weekday PM peak period, those respondents indicating that they are on the first versus and second half of a round-trip are much more balanced, with approximately 56% on the return portion of their trip.

Table 10-13 shows the distribution of waiting times for the Sunday survey period. Results were similar to the weekday PM peak and non-peak periods with respondents boarding as pedestrians waiting for a shorter amount of time than those respondents boarding in a vehicle.

Table 10-12
Round-Trip Patterns and Methods
Seattle-Bremerton – Sunday Survey Period

<i>Round-Trip Segment & Method / Time</i>	<i>Today</i>	<i>Some Other Day</i>	<i>No Answer</i>	<i>Usable Responses</i>
Declared Initial Trip (Reported on 2nd Half of Round-Trip)				55.5%
Same Ferry Route	35.0%	21.2%	6.6%	86
Not Using Ferry System	11.7%	10.2%	0.7%	31
Different Ferry Route	8.0%	5.1%	0.0%	18
No Answer	0.7%	0.0%	0.7%	2
<i>Total Declared Initial Trip</i>	<i>55.5%</i>	<i>36.5%</i>	<i>8.0%</i>	<i>137</i>
Expected Return Trip (Reported on 1st Half of Round-Trip)				40.9%
Same Ferry Route	57.4%	8.9%	3.0%	70
Not Using Ferry System	12.9%	2.0%	4.0%	19
Different Ferry Route	6.9%	1.0%	0.0%	8
No Answer	2.0%	1.0%	1.0%	4
<i>Total Expected Return Trip</i>	<i>79.2%</i>	<i>12.9%</i>	<i>7.9%</i>	<i>101</i>
No Answer (Did Not Report Round-Trip Status)				3.6%
<i>No Answer</i>			<i>100.0%</i>	<i>9</i>
Usable Responses	156	63	28	247

Table 10-13
Wait Time Distribution by Boarding Method
Seattle-Bremerton – Sunday Survey Period

<i>Wait Time Distribution / Boarding Method</i>	<i>Walk Board (Pedestrian & Bicycle)</i>	<i>Vehicle Board (Driver & Passenger)</i>	<i>Usable Responses</i>
Zero to 10 Minutes	41.7%	8.0%	40
11 to 30 Minutes	33.3%	52.9%	119
31 to 60 Minutes	23.3%	23.5%	58
61 to 90 Minutes	1.7%	7.5%	15
More Than 90 Minutes	0.0%	2.7%	5
No Answer	0.0%	5.3%	10
Totals	100.0%	100.0%	
Usable Responses	60	187	247

10.2 GEOGRAPHIC TRAVEL PATTERNS

This section provides tables and map figures which present the locations for ferry user trip origins and destinations. Of key interest for updating the WSF travel demand forecasting model are the PM peak period origin-destination (O-D) trip tables by travel direction, presented as expanded PM peak ridership volumes and distributions for all modes, as well as for walk-on and in-vehicle boardings. Similar O-D trip tables presenting unexpanded Sunday survey period distributions are also provided. Complementing the PM peak and Sunday trip tables are two sets of map figures. The first set shows the geographic flows of origins and destinations, including route district percentage distributions, for all trips by direction. The second set of maps illustrates the directional densities of trip origins and destinations, using different pinpoint symbols to delineate walk-on and in-vehicle boarding methods.

10.2.1 Weekday PM Peak Period Trip Patterns

For the weekday PM peak period, Table 10-14 shows origin-destination information for all boarding modes by district in the westbound direction of travel. The percentage of riders traveling from the Seattle CBD during the PM peak period increased from approximately 45% in 1993 to 53% in 1999. The majority of destination locations continued to be in the Greater Bremerton district and other parts of the Central Kitsap County district. Westbound origin and destination information is shown graphically in Figure 10-1.

Table 10-15 shows origin-destination information for all boarding modes in the eastbound direction of travel for the weekday PM peak period. The percentage of riders traveling to the Seattle CBD during the PM peak period decreased markedly from approximately 27% in 1993 to 13% in 1999, while the percentage of those destined for the Greater Bellevue/Mercer Island district increased from approximately 6% to 16%. The majority of origin locations continued to be in the Greater Bremerton district (with over 50%) and other parts of the Central Kitsap County district. Figure 10-2 graphically represents the origins and destinations for the eastbound direction.

Origin and destination information for walk-on boardings in the westbound direction is summarized in Table 10-16 for the weekday PM peak period, while O-D information for in-vehicle boardings in the westbound direction for the same time period is shown in Table 10-17. Both tables show results similar to those for all boarding modes, with Table 10-16 (walk-on boardings) showing an even higher concentration of origins in the Seattle CBD (72%) and destinations in the Greater Bremerton area during the PM peak period. Origin and destination information for the westbound direction by mode is shown graphically in Figure 10-3 for the weekday PM peak period.

Origin and destination information for walk-on boardings and in-vehicle boardings in the eastbound direction is shown in Table 10-18 and Table 10-19 for the weekday PM peak period, respectively. These tables show an interesting break-down of the O-D information by boarding mode for the eastbound direction. Table 10-18 (walk-on boardings) shows a very high concentration of origin locations in the West Bremerton district (83%), while the highest concentration of destinations are located in the Greater Everett/Lynnwood district

(29%). In contrast, Table 10-19 (in-vehicle boardings) shows a wider dispersal of origins (e.g., only 29% in the West Bremerton district), with the highest concentration of destinations located in the Greater Bellevue/Mercer Island district (24%; note that Table 10-18 shows no walk-on destinations in this district). Eastbound origin and destination information by boarding mode is represented graphically in Figure 10-4 for the PM peak period.

Table 10-14
Seattle-Bremerton O-D Trip Table
Weekday PM Peak Period – Westbound – All Boarding Modes

ORIGIN	DESTINATION													Origin Totals	Origin Shares
		West Pierce County 916	Thurston/Central Pierce Counties 917	West Bremerton 918	East Bremerton 919	Greater Silverdale 920	North Central Kitsap County 921	Greater Port Orchard 922	Other South Kitsap County 923	North Kitsap/Northeast Jefferson Counties 924	Mason County 926	South Central Kitsap County 927	All Other Places 928		
Seattle CBD	901	6		217	96	181	57	29	67	9	55	22		739	52.9%
Seattle Industrial Area	902			21	10	19	2				2	2		58	4.1%
West Seattle/South Seattle/Boeing Field	903			25		13	5			2	2			47	3.4%
Capitol Hill	904			17	8	9	5		4		2			44	3.1%
Queen Anne-Lake Union	905			26	13	19		10	18		5			91	6.5%
Magnolia	906			10	4	12	2							28	2.0%
University District	907	13	2	21	10	14	2		6		2			72	5.1%
Ballard-Green Lake	908			18	9	15	9		2		13	4	4	75	5.4%
North Seattle/Northgate/Sand Point	909			4	2	2			2		5			15	1.1%
Bothell-Kirkland/Redmond	910	2		17	5	11	5				2			41	2.9%
Greater Bellevue/Mercer Island	911			17	2	33	11	2	2			5		72	5.2%
South King County	912			19	9	12	7							46	3.3%
Other West King County	913	2				11					17			30	2.2%
Other West Snohomish County	915			5	9	2								16	1.2%
Thurston/Central Pierce Counties	917					5								5	0.3%
All Other Places	928			2	2	7	2		4					18	1.3%
Destination Totals		24	2	417	180	366	106	42	107	11	105	33	4	1,398	100.0%
Destination Shares		1.7%	0.2%	29.8%	12.9%	26.2%	7.6%	3.0%	7.6%	0.8%	7.5%	2.4%	0.3%	100.0%	

Figure 10-1
Seattle - Bremerton (Auto Ferry) Westbound PM Peak Trips
All Boarding Modes

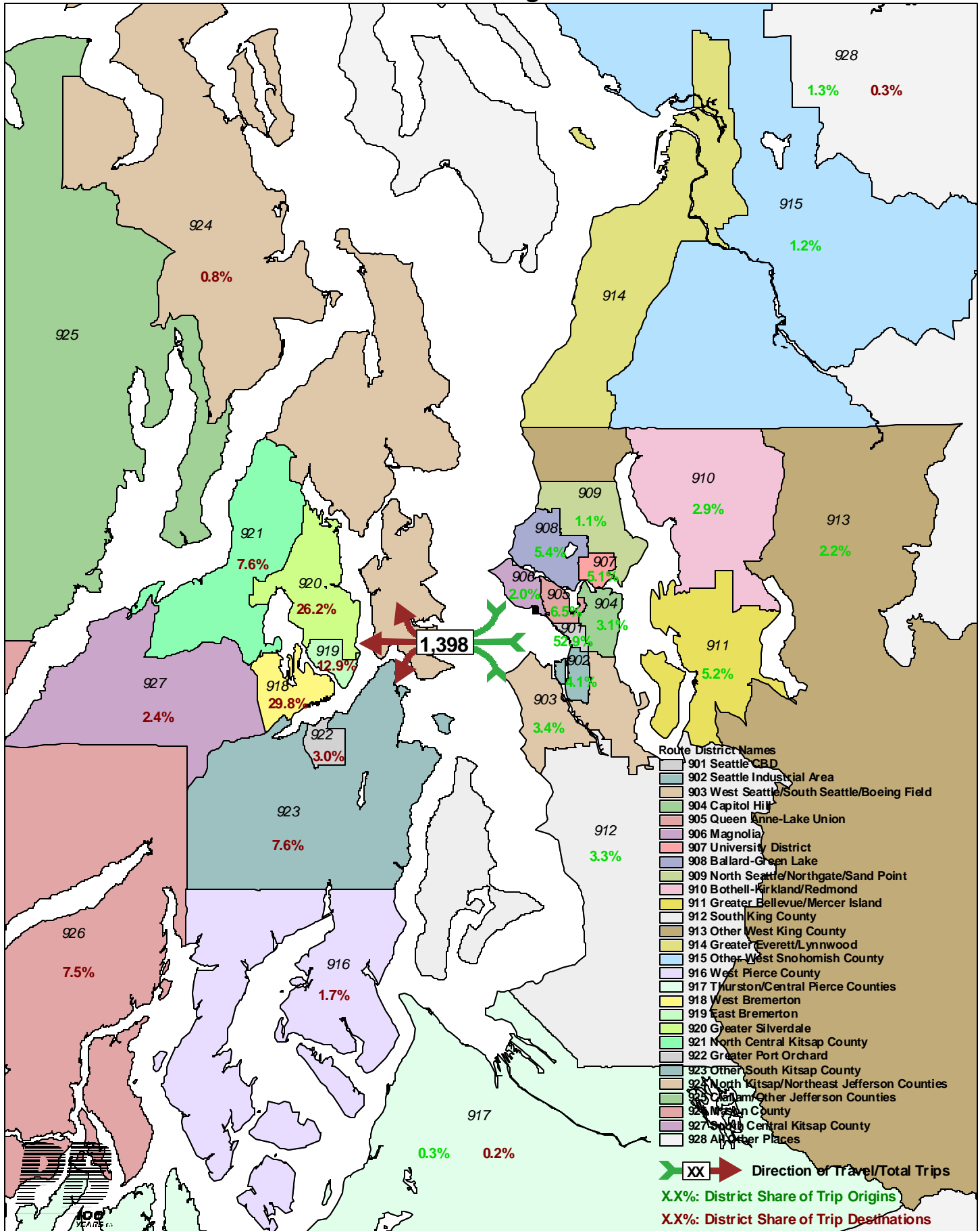


Table 10-15
Seattle-Bremerton O-D Trip Table
Weekday PM Peak Period – Eastbound – All Boarding Modes

		DESTINATION															Origin Totals	Origin Shares
ORIGIN		Seattle CBD 901	West Seattle/South Seattle/Boeing Field 903	Capitol Hill 904	Queen Anne-Lake Union 905	Magnolia 906	University District 907	Ballard-Green Lake 908	North Seattle/Northgate/Sand Point 909	Bothell-Kirkland/Redmond 910	Greater Bellevue/Mercer Island 911	South King County 912	Other West King County 913	Greater Everett/Lynnwood 914	Other West Snohomish County 915	All Other Places 928		
West Bremerton	918	26	22	2	16	4	10	26	4			24	14	47	6	18	217	46.0%
East Bremerton	919	6		4	11			10	4		8						43	9.2%
Greater Silverdale	920	6	2								4	4					16	3.4%
North Central Kitsap County	921	4	2		19			10				2					37	7.9%
Greater Port Orchard	922	2															2	0.4%
Other South Kitsap County	923	2		8			4	4			4						21	4.5%
North Kitsap/Northeast Jefferson Counties	924	4									41	4					49	10.5%
Clallam/Other Jefferson Counties	925		4														4	0.8%
Mason County	926	4					4	11		2	11		4				37	7.8%
South Central Kitsap County	927	6						11			8						25	5.4%
All Other Places	928		8						11								19	4.0%
Destination Totals		59	37	13	47	4	18	73	19	2	77	34	18	47	6	18	472	100.0%
Destination Shares		12.6%	7.9%	2.9%	9.9%	0.8%	3.8%	15.4%	4.1%	0.4%	16.3%	7.1%	3.8%	10.0%	1.2%	3.8%	100.0%	

Figure 10-2
Seattle - Bremerton (Auto Ferry) Eastbound PM Peak Trips
All Boarding Modes

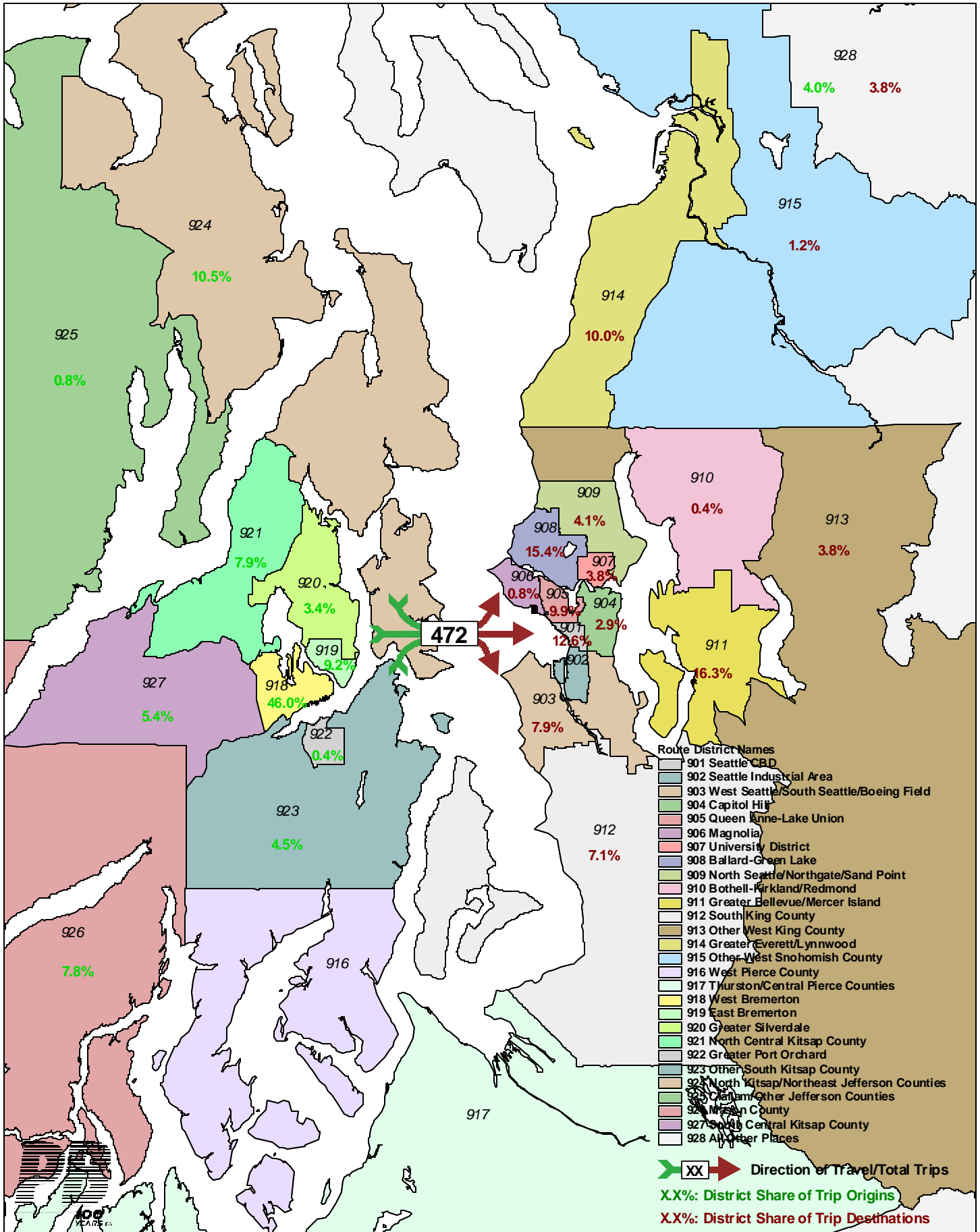


Table 10-16
Seattle-Bremerton O-D Trip Table
Weekday PM Peak Period – Westbound – Walk-On Boardings

ORIGIN	DESTINATION												Origin Totals	Origin Shares
		West Pierce County 916	West Bremerton 918	East Bremerton 919	Greater Silverdale 920	North Central Kitsap County 921	Greater Port Orchard 922	Other South Kitsap County 923	North Kitsap/Northeast Jefferson Counties 924	Mason County 926	South Central Kitsap County 927	All Other Places 928		
Seattle CBD	901	4	172	96	160	52	20	48	4	36	20		613	71.5%
Seattle Industrial Area	902		12	8	8								28	3.3%
West Seattle/South Seattle/Boeing Field	903		20		4								24	2.8%
Capitol Hill	904		12	8	4			4					28	3.3%
Queen Anne-Lake Union	905		24	8	12		8	4					56	6.5%
Magnolia	906		8	4									12	1.4%
University District	907	4	16	8	12			4					44	5.1%
Ballard-Green Lake	908		4		4	4				4	4	4	24	2.8%
North Seattle/Northgate/Sand Point	909		4										4	0.5%
Bothell-Kirkland/Redmond	910		12		4								16	1.9%
Other West King County	913				4								4	0.5%
All Other Places	928							4					4	0.5%
Destination Totals		8	284	132	212	56	28	64	4	40	24	4	857	100.0%
Destination Shares		0.9%	33.2%	15.4%	24.8%	6.5%	3.3%	7.5%	0.5%	4.7%	2.8%	0.5%	100.0%	

Table 10-17
Seattle-Bremerton O-D Trip Table
Weekday PM Peak Period – Westbound – In-Vehicle Boardings

ORIGIN	DESTINATION	DESTINATION											Origin Totals	Origin Shares
		West Pierce County 916	Thurston/Central Pierce Counties 917	West Bremerton 918	East Bremerton 919	Greater Silverdale 920	North Central Kitsap County 921	Greater Port Orchard 922	Other South Kitsap County 923	North Kitsap/Northeast Jefferson Counties 924	Mason County 926	South Central Kitsap County 927		
Seattle CBD	901	2		45		21	5	9	19	5	19	2	126	23.3%
Seattle Industrial Area	902			9	2	11	2				2	2	30	5.5%
West Seattle/South Seattle/Boeing Field	903			5		9	5			2	2		23	4.2%
Capitol Hill	904			5		5	5				2		16	3.0%
Queen Anne-Lake Union	905			2	5	7		2	14		5		35	6.5%
Magnolia	906			2		12	2						16	3.0%
University District	907	9	2	5	2	2	2		2		2		28	5.1%
Ballard-Green Lake	908			14	9	11	5		2		9		51	9.4%
North Seattle/Northgate/Sand Point	909				2	2			2		5		11	2.1%
Bothell-Kirkland/Redmond	910	2		5	5	7	5				2		25	4.6%
Greater Bellevue/Mercer Island	911			17	2	33	11	2	2			5	72	13.4%
South King County	912			19	9	12	7						46	8.6%
Other West King County	913	2				7					17		26	4.8%
Other West Snohomish County	915			5	9	2							16	3.0%
Thurston/Central Pierce Counties	917					5							5	0.8%
All Other Places	928			2	2	7	2						14	2.6%
Destination Totals		16	2	133	48	153	50	14	42	7	65	9	541	100.0%
Destination Shares		3.0%	0.4%	24.6%	8.9%	28.3%	9.3%	2.6%	7.8%	1.3%	12.1%	1.7%	100.0%	

Figure 10-3
Seattle - Bremerton Westbound PM Peak Period
Trip Origins & Destinations by Boarding Mode

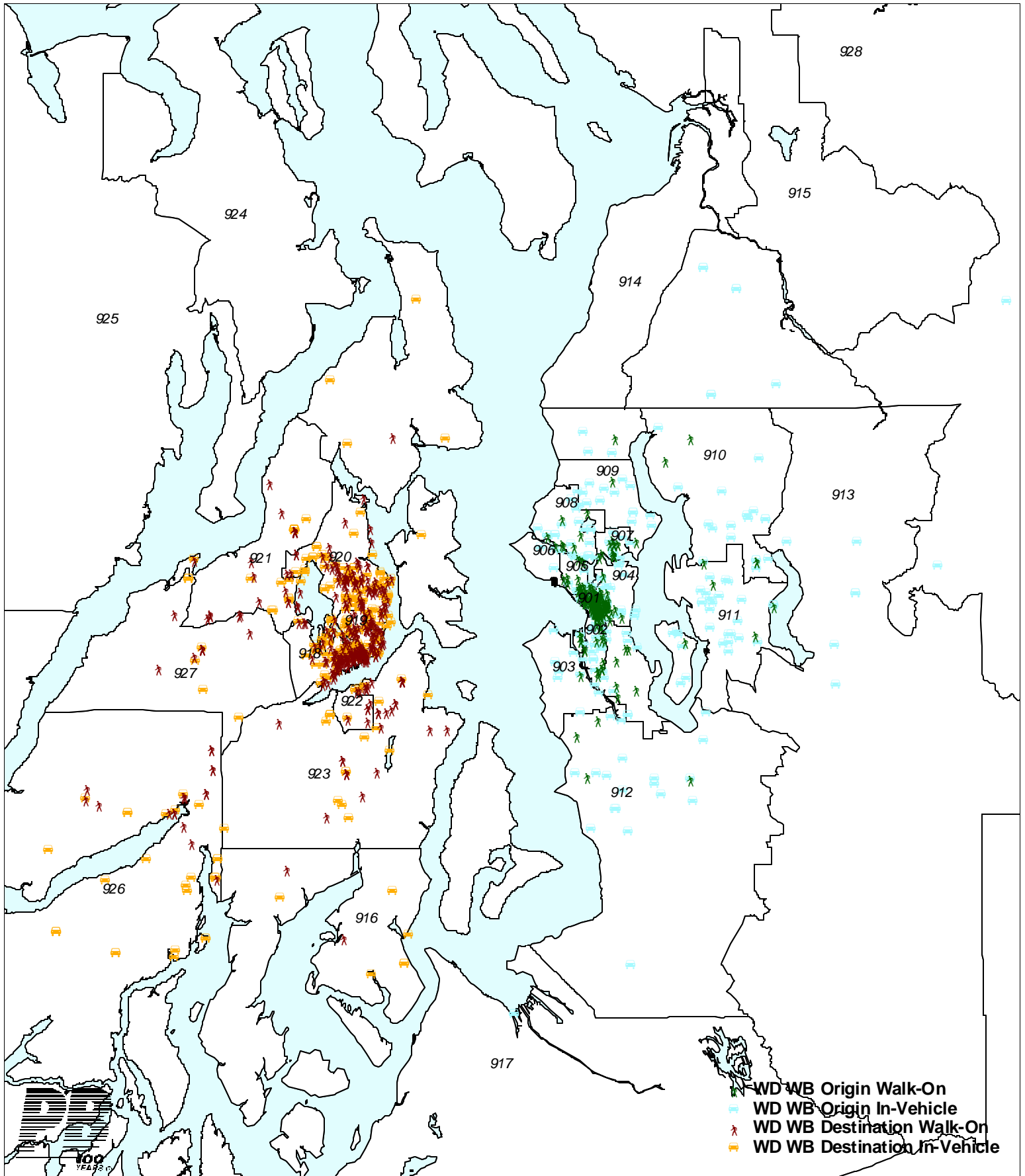


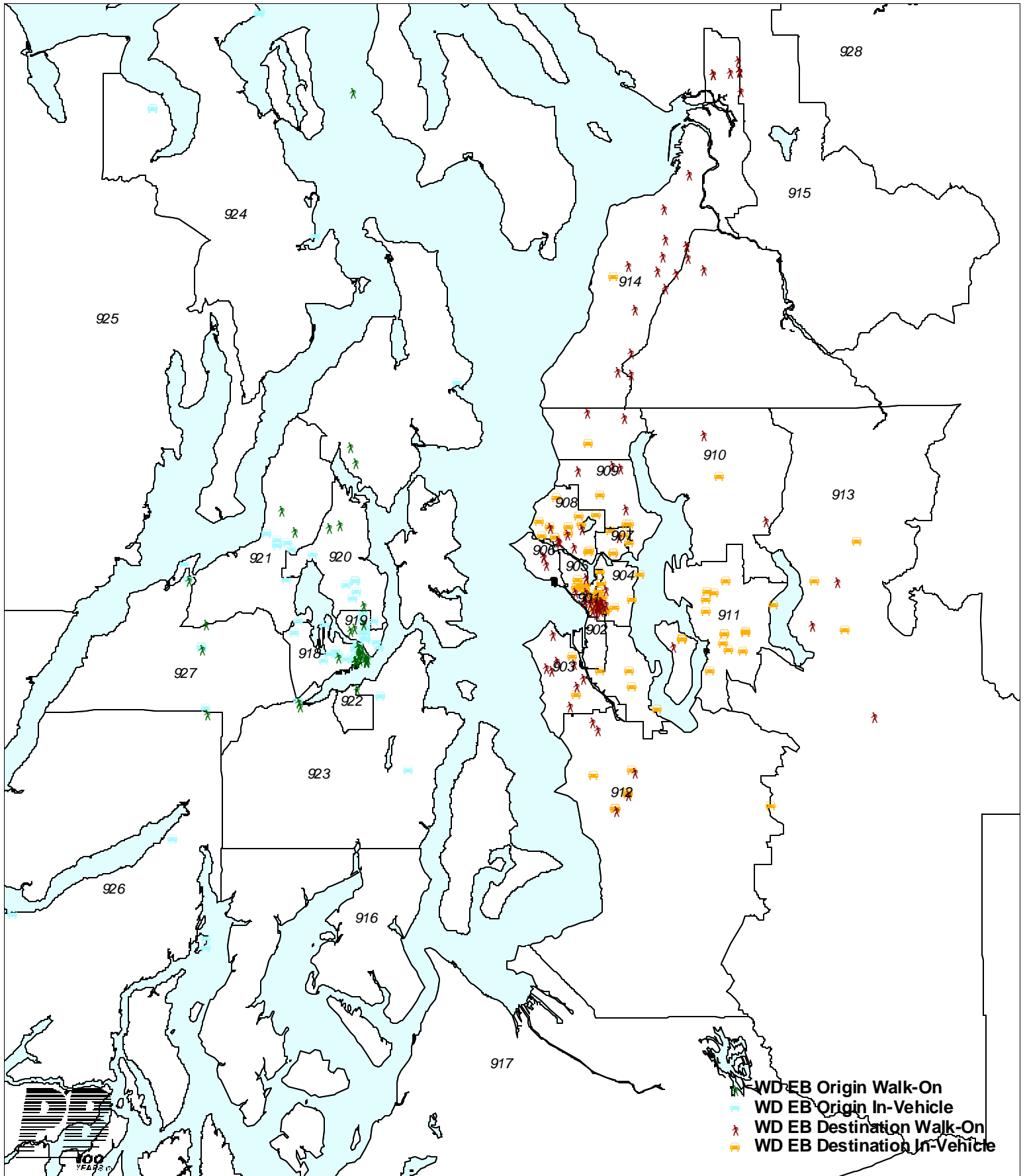
Table 10-18
Seattle-Bremerton O-D Trip Table
Weekday PM Peak Period – Eastbound – Walk-On Boardings

	ORIGIN	DESTINATION															Origin Totals	Origin Shares
		Seattle CBD	West Seattle/South Seattle/Boeing Field	Capitol Hill	Queen Anne-Lake Union	Magnolia	University District	Ballard-Green Lake	North Seattle/Northgate/Sand Point	Bothell-Kirkland/Redmond	South King County	Other West King County	Greater Everett/Lynnwood	Other West Snohomish County	All Other Places			
		901	903	904	905	906	907	908	909	910	912	913	914	915	928			
West Bremerton	918	14	10	2	4	4	2	10	4		8	10	43	6	10	126	83.1%	
East Bremerton	919	2						2								4	2.6%	
Greater Silverdale	920	2	2													4	2.6%	
North Central Kitsap County	921		2					2			2					6	3.9%	
Greater Port Orchard	922	2														2	1.3%	
Other South Kitsap County	923	2														2	1.3%	
North Kitsap/Northeast Jefferson Counties	924	4														4	2.6%	
Mason County	926									2						2	1.3%	
South Central Kitsap County	927	2														2	1.3%	
Destination Totals		27	14	2	4	4	2	14	4	2	10	10	43	6	10	151	100.0%	
Destination Shares		18.2%	9.1%	1.3%	2.6%	2.6%	1.3%	9.1%	2.6%	1.3%	6.5%	6.5%	28.6%	3.9%	6.5%	100.0%		

Table 10-19
Seattle-Bremerton O-D Trip Table
Weekday PM Peak Period – Eastbound – In-Vehicle Boardings

		DESTINATION												Origin Totals	Origin Shares
		Seattle CBD	West Seattle/South Seattle/Boeing Field	Capitol Hill	Queen Anne-Lake Union	University District	Ballard-Green Lake	North Seattle/Northgate/Sand Point	Greater Bellevue/Mercer Island	South King County	Other West King County	Greater EverettLynnwood	All Other Places		
ORIGIN		901	903	904	905	907	908	909	911	912	913	914	928		
West Bremerton	918	12	12		12	8	16			16	4	4	8	92	28.6%
East Bremerton	919	4		4	11		8	4	8					39	12.3%
Greater Silverdale	920	4							4	4				12	3.7%
North Central Kitsap County	921	4			19		8							31	9.8%
Other South Kitsap County	923			8		4	4		4					19	6.1%
North Kitsap/Northeast Jefferson Counties	924								41	4				45	14.2%
Clallam/Other Jefferson Counties	925		4											4	1.2%
Mason County	926	4				4	11		11		4			35	10.9%
South Central Kitsap County	927	4					11		8					23	7.3%
All Other Places	928		8					11						19	5.9%
Destination Totals		32	23	11	43	16	59	15	77	24	8	4	8	320	100.0%
Destination Shares		9.9%	7.3%	3.6%	13.4%	5.0%	18.3%	4.8%	24.0%	7.5%	2.5%	1.2%	2.5%	100.0%	

Figure 10-4
Seattle - Bremerton Eastbound PM Peak Period
Trip Origins & Destinations by Boarding Mode



10.2.2 Sunday Survey Period Trip Patterns

Table 10-20 shows origin and destination information for all boarding modes by district in the westbound direction for the Sunday survey period. Results are shown graphically in Figure 10-5. As one would expect with Sunday travel, origin locations are less concentrated than during the weekday PM peak period, with only 16% of origins located in the Seattle CBD versus 53% during the weekday PM peak period. Destinations, however, are similar to the weekday PM peak period, with the majority located in the Greater Bremerton area and other parts of the Central Kitsap County district. These results are similar to those found in 1993.

Origin and destination information for all boarding modes in the eastbound direction is summarized in Table 10-21 and represented graphically in Figure 10-6 for the Sunday survey period. Origin locations are slightly less concentrated in the Sunday survey period, with only 32% of origins located in the West Bremerton district versus 46% in the weekday PM peak period, and an increase in origins located in Mason County from 8% to 24%. Destination locations for the Sunday survey period are similar to those in the weekday PM peak period. Origin and destination distribution in 1999 is generally similar to the distribution in 1993.

Origin and destination locations by boarding mode are shown for the westbound and eastbound directions in Figure 10-7 and Figure 10-8, respectively.

Table 10-20
Seattle-Bremerton O-D Trip Table
Sunday Survey Period – Westbound – All Boarding Modes

ORIGIN	DESTINATION	<div> <div>Thurston/Central Pierce Counties</div> <div>West Bremerton</div> <div>East Bremerton</div> <div>Greater Silverdale</div> <div>North Central Kitsap County</div> <div>Greater Port Orchard</div> <div>Other South Kitsap County</div> <div>North Kitsap/Northeast Jefferson Counties</div> <div>Clallam/Other Jefferson Counties</div> <div>Mason County</div> <div>South Central Kitsap County</div> <div>All Other Places</div> </div>												Origin Shares
		917	918	919	920	921	922	923	924	925	926	927	928	
Seattle CBD	901	1.8%	4.4%	1.8%	2.6%				0.9%			2.6%	1.8%	15.8%
Seattle Industrial Area	902		1.8%	0.9%								0.9%		3.5%
West Seattle/South Seattle/Boeing Field	903		0.9%		0.9%				0.9%					2.6%
Capitol Hill	904		0.9%	0.9%	1.8%									3.5%
Queen Anne-Lake Union	905		4.4%	0.9%		0.9%					0.9%			7.0%
Magnolia	906				0.9%							1.8%		2.6%
University District	907		0.9%								0.9%			1.8%
Ballard-Green Lake	908		3.5%	0.9%	1.8%	4.4%		0.9%			0.9%			12.3%
North Seattle/Northgate/Sand Point	909		1.8%							1.8%	0.9%			4.4%
Bothell-Kirkland/Redmond	910		4.4%	0.9%	0.9%									6.1%
Greater Bellevue/Mercer Island	911		0.9%			1.8%	0.9%	1.8%	2.6%	1.8%				9.6%
South King County	912		5.3%	1.8%			1.8%					0.9%		9.6%
Other West King County	913		5.3%			0.9%			0.9%		1.8%	0.9%		9.6%
Greater Everett/Lynnwood	914		2.6%											2.6%
Other West Snohomish County	915		0.9%					0.9%			1.8%			3.5%
Thurston/Central Pierce Counties	917		1.8%											1.8%
All Other Places	928				1.8%				0.9%	0.9%				3.5%
Destination Shares		1.8%	39.5%	7.9%	10.5%	7.9%	2.6%	3.5%	6.1%	4.4%	7.0%	7.0%	1.8%	100.0%

Figure 10-5
Seattle - Bremerton (Auto Ferry) Westbound Sunday Survey Period Trips
All Boarding Modes

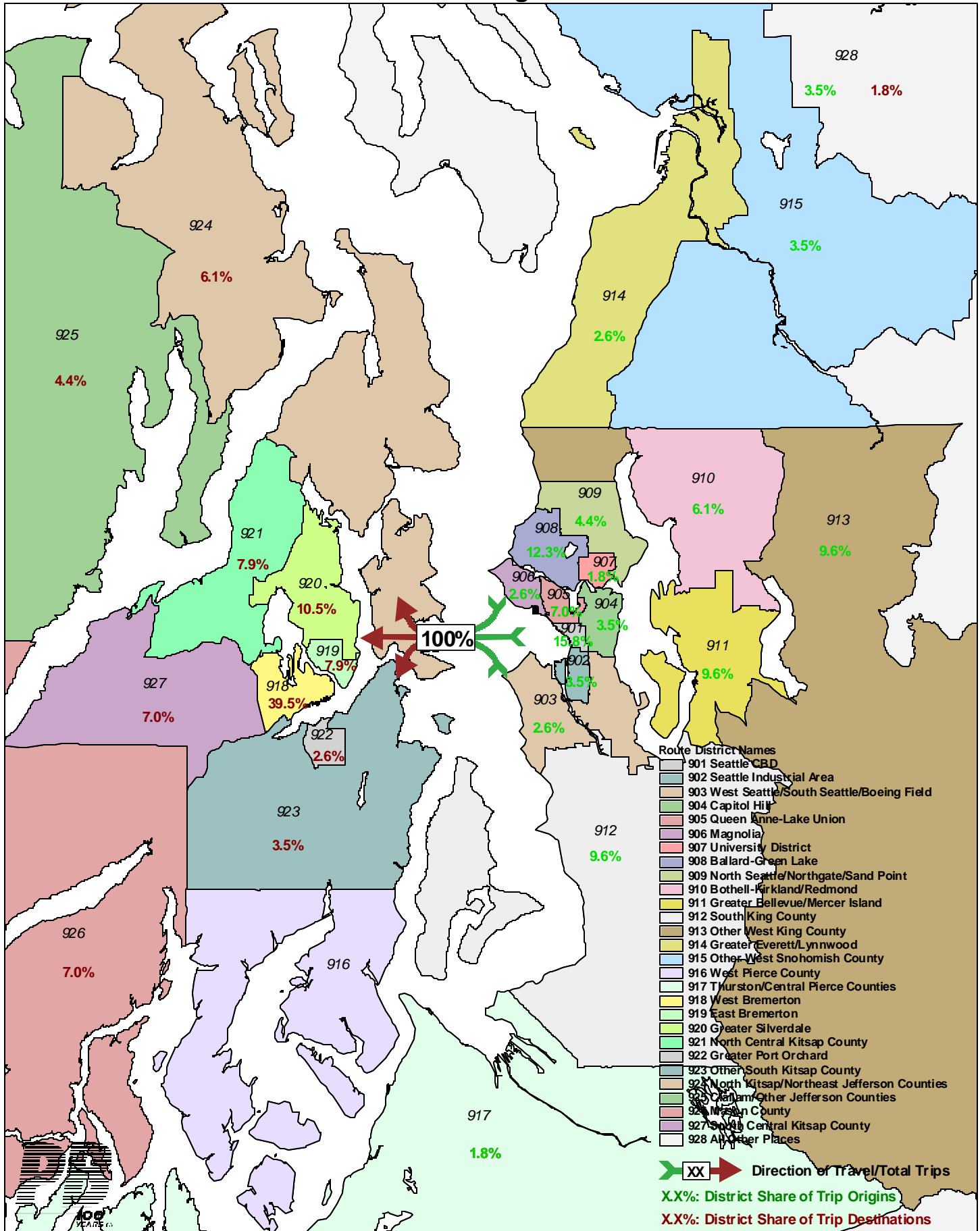


Table 10-21
Seattle-Bremerton O-D Trip Table
Sunday Survey Period – Eastbound – All Boarding Modes

ORIGIN	DESTINATION																Origin Shares
		Seattle CBD 901	West Seattle/South Seattle/Boeing Field 903	Capitol Hill 904	Queen Anne-Lake Union 905	Magnolia 906	University District 907	Ballard-Green Lake 908	North Seattle/Northgate/Sand Point 909	Bothell-Kirkland/Redmond 910	Greater Bellevue/Mercer Island 911	South King County 912	Other West King County 913	Greater Everett/Lynnwood 914	Other West Snohomish County 915	All Other Places 928	
West Pierce County	916							1.8%		0.9%							2.8%
Thurston/Central Pierce Counties	917	2.8%			1.8%			0.9%			0.9%						6.4%
West Bremerton	918	6.4%	0.9%	1.8%			0.9%	3.7%	3.7%	2.8%	0.9%	1.8%	4.6%	2.8%	0.9%	0.9%	32.1%
East Bremerton	919		0.9%						0.9%	0.9%		0.9%		0.9%		1.8%	6.4%
Greater Silverdale	920	0.9%			0.9%		0.9%	5.5%						0.9%		0.9%	10.1%
North Central Kitsap County	921			0.9%				0.9%		0.9%	0.9%	0.9%	1.8%			1.8%	8.3%
Other South Kitsap County	923							0.9%								0.9%	1.8%
North Kitsap/Northeast Jefferson Counties	924							0.9%	0.9%			2.8%					4.6%
Clallam/Other Jefferson Counties	925								0.9%				0.9%				1.8%
Mason County	926	0.9%	3.7%	1.8%	1.8%	0.9%		0.9%	3.7%	0.9%		1.8%	1.8%	0.9%		4.6%	23.9%
South Central Kitsap County	927				0.9%												0.9%
All Other Places	928										0.9%						0.9%
Destination Shares		11.0%	5.5%	4.6%	5.5%	0.9%	1.8%	15.6%	10.1%	6.4%	3.7%	8.3%	9.2%	5.5%	0.9%	11.0%	100.0%

Figure 10-6
Seattle - Bremerton (Auto Ferry) Eastbound Sunday Survey Period Trips
All Boarding Modes

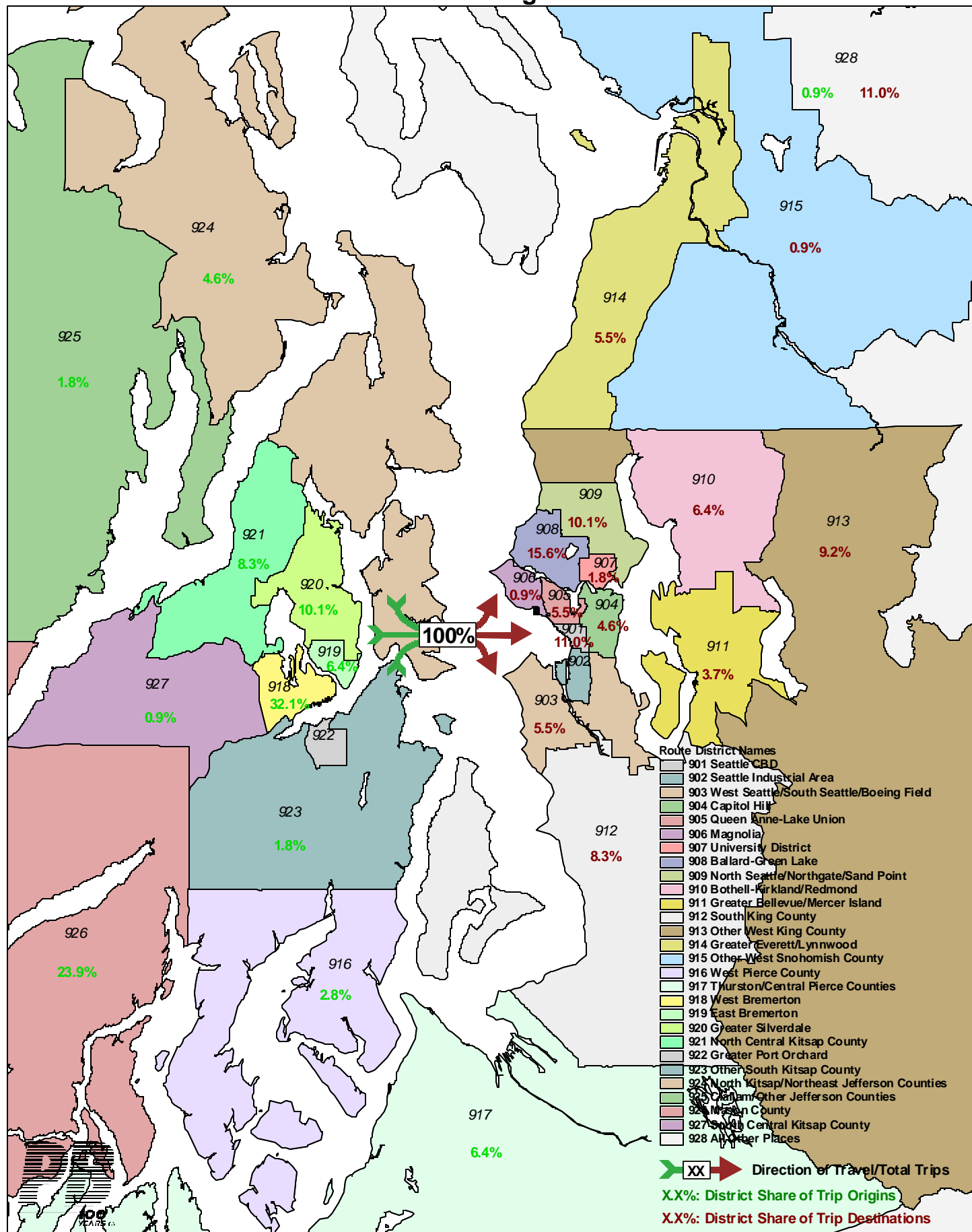


Figure 10-7
Seattle - Bremerton Westbound Sunday Survey Period
Trip Origins & Destinations by Boarding Mode

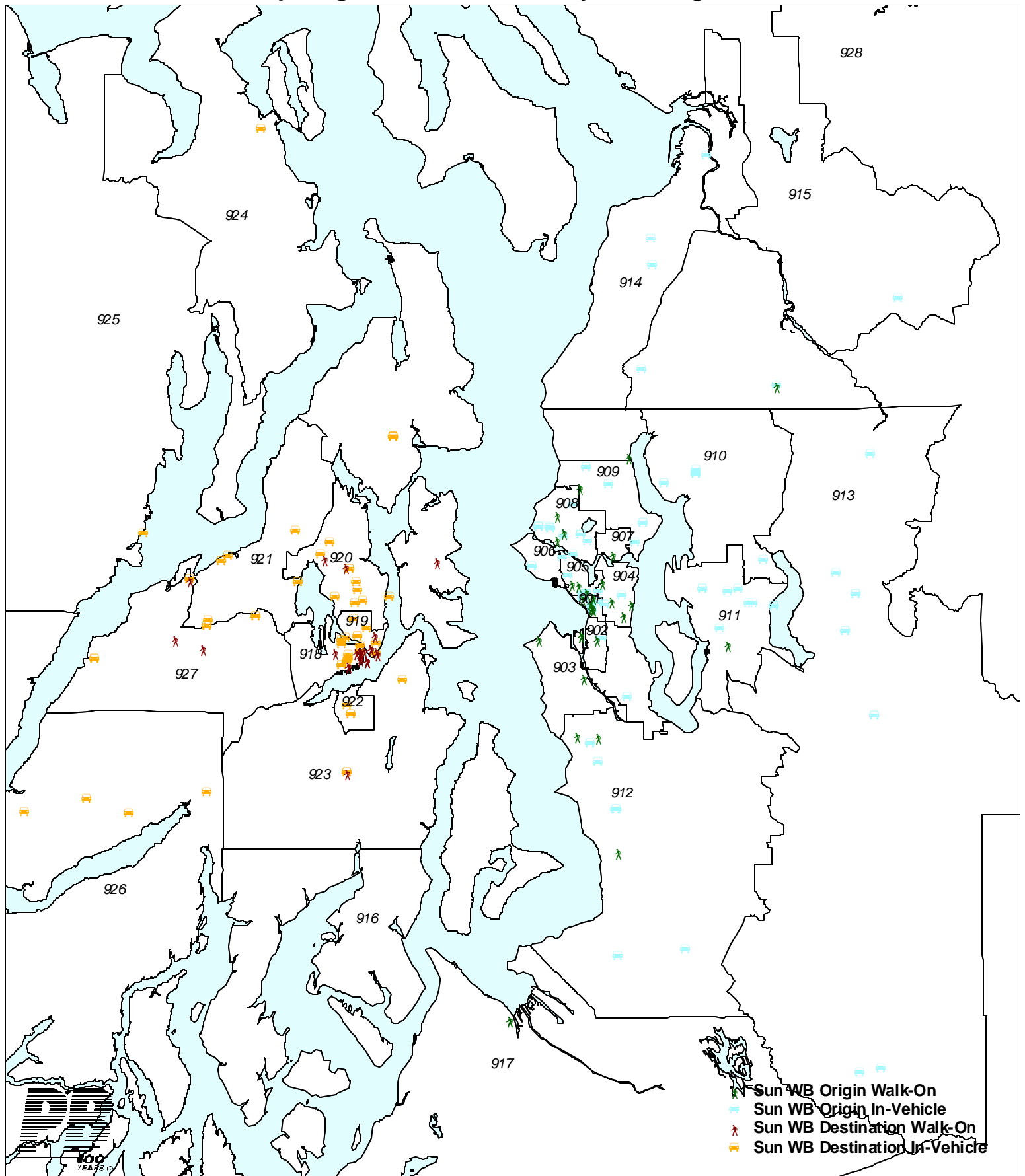


Figure 10-8
Seattle - Bremerton Eastbound Sunday Survey Period
Trip Origins & Destinations by Boarding Mode

